# NEWSLINE

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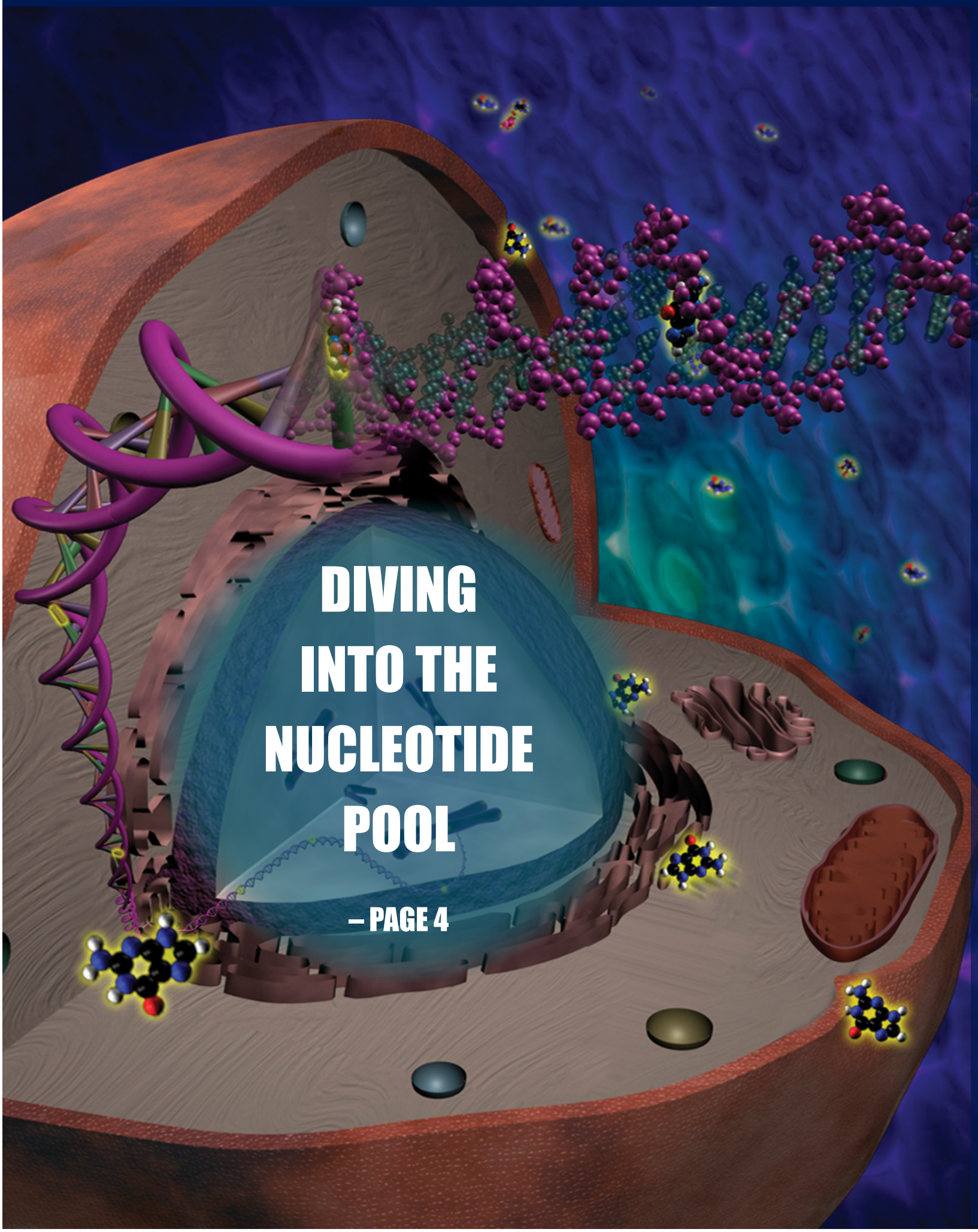


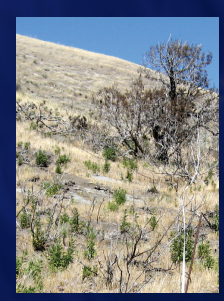
# DIVING INTO THE NUCLEOTIDE POOL

– PAGE 4

## What's INSIDE







2007 TRANSITION NEWS

LLNL TRANSITION INFO

# NNSA approves LLNS benefits/pension plan

National Nuclear Security Administration

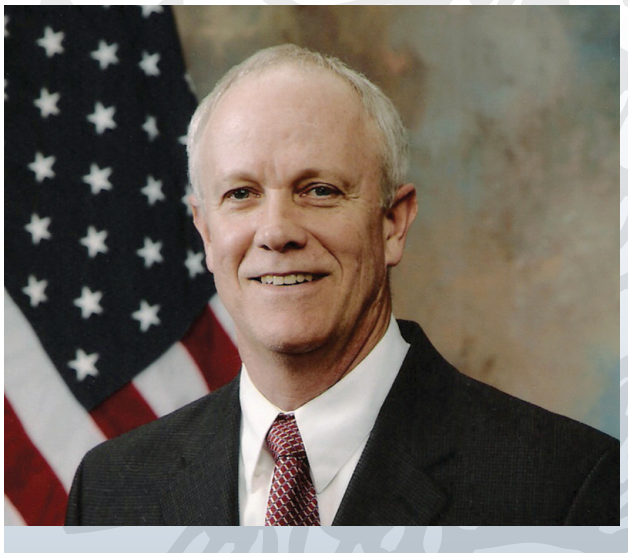
After careful consideration of more than 4,000 Laboratory employee comments, the Department of Energy's National Nuclear Security Administration (NNSA) has approved a proposal from the new Laboratory management and operating contractor, Lawrence Livermore National Security, LLC (LLNS), to have a pension benefit plan for transferring and new employees that is consistent with the plan available for employees at the Los Alamos National Laboratory.

The decision also requires both laboratories to complete comprehensive benefit valuation studies and a department review by June 2008 to ensure that their respective benefits packages are consistent with departmental policy.

The decision will allow LLNS to issue an offer of employment letter to each current University of California employee at the Laboratory, who will then have 60 days to ask questions, evaluate his or her circumstances, and select the plan that best meets his or her needs.

Laboratory employees with questions, comments or concerns may contact LLNS through the Website at www.llnsllc.com.

Rep. Ellen Tauscher



Rep. Jerry McNerney

# Tauscher, McNerney commend NNSA for amended employee benefits package

On Wednesday, the National Nuclear Security Administration approved a benefits package that is congruent to the current package being offered to employees at Los Alamos National Laboratory.

Reps. Ellen Tauscher and Jerry McNerney commended the improved benefits package.

"This is a huge victory for our security and for the Lab employees who have devoted their careers to keeping us safe," Tauscher said. "Keeping the labs on an equal footing with congruent benefit packages is a first step toward ensuring the best science and security for the United States. I commend Secretary Bodman for his decision and thank him for listening to all of us who wanted to do what's right for the future of the labs and the men and women who work there.

"This decision recognizes that competition amongst the labs has delivered unparalleled accomplishments in our national interest. A defining strength of the labs has always been their ability to recruit and retain the best and the brightest. Achieving parity in the benefits package and allowing the respective lab directors to have direct input when the new study is conducted are both important steps in making sure the labs can continue to compete for talent and produce the top-notch science that improves our national security."

McNerney echoed Tauscher's sentiments.

"I met with hundreds of Livermore Lab employees last week and heard from hundreds more through e-mails and phone calls to my offices," McNerney said. "Late last week, I took all of those comments and concerns and brought them directly to the NNSA and Energy Secretary Bodman. Based on the feedback and the proposed plan received, the Department of Energy will now offer a benefits package on par with benefits received by employees at Los Alamos National Laboratory.

"It is critical that the compensation provided to Livermore Lab employees is good enough to attract the best talent for the Laboratory. The original NNSA-proposed package was not in the best interest of the Laboratory, the scientific community or national security.

"This move is a great first step towards providing Lab employees with appropriate benefits."

# Transition update

## UC issues guidelines for payroll close-out

The University of California has issued a 2007 payroll close-out timeline for employees to follow from August-September in preparation for the end of the UC contract.

The first deadline is Aug. 30 when employees need to make their vacation cash-out election.

Employees need to make any last changes to their 457(b) contributions by Aug. 31. The changes will affect the final UC paycheck for employees who contribute to the 457 (b).

On Sept. 28, bi-weekly employees will receive two paychecks, one for Sept 9-22 and one for Sept. 23-30, and monthly employees will receive one paycheck for Sept. 1-30. In addition, for those who opted for vacation cash-out, checks will be issued to those employees.

For other guidelines, see the chart (at right).

## 2007 UC Payroll Close-out Timeline

**Aug. 30** – Vacation cash-out elections due.

**Aug. 31** – 457(b) changes due (changes will affect final UC paycheck for all employees).

**Sept. 14**

- Tax and direct deposit changes due through LAPIS Self-Service.
- 401(a) and 403(b) changes due (changes will affect the final check for all employees).
- Timecards due for weeks ending Sept. 15, 22, 29 and 30.
- LITE notification and Personnel Administration System (PAS) actions due for employees terminating between Sept. 14 and 30.
- All other PAS actions must be approved and posted to the database.

**Sept. 19** – Corrections and late time cards due by COB.

**Sept. 25** – Payroll Office confirms all final UC payrolls and releases files to the bank.

**Sept. 28** – Biweekly employees receive two paychecks, one for Sept. 9-22 and one for Sept. 23-30 (eight days). Monthly employees receive one paycheck for Sept. 1-30. Bi-weekly and monthly vacation cash-out if chosen.

## LLNL employees will soon be mailed job offer letters from LLNS

As part of the Laboratory's transition to management under Lawrence Livermore National Security, LLC (LLNS), employees will soon receive employment offer letters from LLNS for jobs at the Laboratory, effective Oct. 1.

LLNS is expected to mail the offer letters to employees' home addresses within the next several days. Each packet will contain:

- A welcome letter from LLNS President and Lab Director George Miller.
- A separation letter from the University of California – this letter officially notifies employees that their Laboratory employment under the University of California will end Sept. 30.
- An offer of employment from LLNS – this letter will include the organizational assignment, salary and employment provisions, along with directions on how employees should accept or decline the offer electronically.

About the same time employees receive their LLNS packages, UC-LLNL employees will receive a "Decision Guide" in a separate mailing to assist them in answering questions regarding their UC benefits and retirement plans, sick leave, vacation leave and more. The decision guide will be mailed within a few days of the LLNS employment offer packages. (See accompanying story).

Employees will have approximately 60 days to make their decision regarding LLNS employment, but may respond anytime prior to the deadline, in mid-September. Once the offer letters are distributed, LLNS and UC will host several joint town hall meetings to address employee and retiree questions and provide answers on the final benefits packages. A schedule of the meetings will be available in next week's *Newsline* and *NewsOnLine*. Both on-site and off-site meetings will be scheduled.

Employees who do not receive their LLNS employment packages by July 23, or have questions regarding their packages, may call the LLNS Transition hotline, at 4-LLNS (4-5677). The hotline is manned Monday through Friday, 7:30 a.m. to 6:30 p.m.

In addition, a more detailed explanation of the offer letter will appear in a special edition of *Newsline*, on Tuesday July 17. More information on the offer letter also will be posted on the LLNS Transition Website, www.llnsllc.com.

University of California
**DECISION GUIDE**
for LLNL Employees

## UCOP to provide decision guide for LLNL UCRP members

The UC Office of the President is preparing a decision guide and personal retirement estimate for LLNL employees who are members of the University of California Retirement Plan (UCRP) to help members make informed decisions about their UCRP benefits as part of the transition from UC employment to employment with the Lawrence Livermore National Security, LLC (LLNS).

The retirement estimate statement provides estimates of basic retirement income and lump sum cash-outs as well as the employee's Capital Accumulation Provision (CAP) balance. The estimate provides information tailored to the employee's UCRP status, for example, if he or she is eligible to retire, vested but not yet eligible to retire or not vested.

The guide explains how employees' decisions about UCRP benefits are related to their employment and benefits decisions with LLNS. It also includes information about the options employees have for their CAP balance and for any balances in the Retirement Savings Program (Defined Contribution, 403(b) and 457(b) plans).

Employees who are not members of UCRP will receive a letter and a one-page information sheet explaining their options for any retirement savings program plan balances they may have.

The UC information is tentatively scheduled to be mailed July 18, but could be delayed. Employees who do not receive a mailing from UC by the end of July should contact the Records Office at 2-9348.

SCIENCE NEWS

# AMS technique may help reduce cancer mutation rates

*By Anne M. Stark*
*Newsline staff writer*

Oxidation in nucleotide pools inherently affects DNA, causing mutations that may lead to aging, cancer, diabetes and degenerative nerve disease.

That is the result of a new study that used accelerator mass spectrometry (AMS) to profoundly impact the current understanding of oxidative lesion (damaged nucleic acid) incorporation and repair in DNA.

AMS allows patients, or in this case human breast cancer cells, to be dosed with very small amounts of radioactive compounds in order to trace how oxidized guanosine (8-oxodG) — a precursor to one of the most prevalent forms of damage found in DNA — is processed by living cells. The radioactivity doses are so small that they are similar to what a person may be exposed to from an airline flight.

"We can work with very low radioactive doses and that's important for human subjects and living cells," said Paul Henderson of the Biosciences and Biotechnology Division of CMLS, who is the senior author of the research paper that appears as the cover article in the July 3 edition of the journal *Proceedings of the National Academy of Sciences*. The all-Livermore group of researchers includes postdoctoral fellows Sang Soo Hah and Janna Mundt as co-lead authors and Hyung Kim, Rhoda Sumbad and Kenneth Turteltaub.

To better understand the uptake and fate of the 14C-labeled 8-oxodG into the cells, the researchers measured the distribution of radiocarbon (14C) in various components of breast cancer cells exposed to the compound. Although the amount of radiocarbon in the DNA would be difficult to characterize by standard methods, such as decay counting, it was easily quantifiable by AMS and was orders of magnitude higher in DNA than expected, Henderson said.

Although less than one atom of the radiocarbon was present in some of the cells, AMS allowed the researchers to determine the amount of 8-oxodG incorporation into DNA, which if not repaired, causes mutations in the cell. "We were able to understand the mechanics of how 8-oxodG is metabolized and this in turn could help determine novel targets for cancer drugs," he said.

Mutations in tumors occur before metastasis (the spread of cancer from its primary site to other places in the body). The mechanism disclosed in the paper may account, in part, for the increased mutation rate in tumor cells compared to normal cells. The researchers concluded that they could someday target the newly elucidated mechanism of mutagenesis with new cancer treatments aimed at reducing cancer mutation rates.

The project was funded by the National Institutes of Health and the California Breast Cancer Research Program.

## U.S. breast cancer rates

Breast cancer is the most common cancer among women, except for nonmelanoma skin cancers. The chance of developing invasive breast cancer at some time in a woman's life is about 1 in 8 (13 percent of women).

**New cases in 2007**
Women: 178,480
Men: 2,030

**Deaths per year**
Women: 40,460
Men: 450

**Five-year relative survival rate for localized stage: 98 percent**

**Five-year relative survival rate for all stages combined: 89 percent**

**Ten-year relative survival rate for all stages combined: 80 percent**

Source: American Cancer Society

> ***"We can work with very low radioactive doses, and that's important for human subjects and living cells."***
>
> – Paul Henderson

## Accelerator mass spectrometry used as a tool for biomedical research

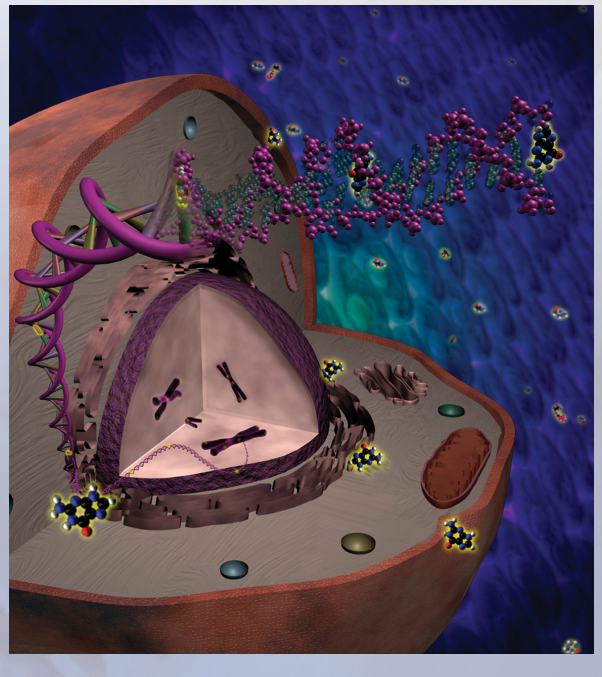
Over the last 10 years, AMS has evolved as a biomedical tool, offering the required sensitivity, selectivity and precision to address questions that alternative methodologies have been unable to achieve in practice.

AMS was originally applied in the life sciences to overcome limitations in detection sensitivity for studying the molecular damage caused by exposure to low levels of environmental carcinogens and pollutants. For example, AMS can be used to conduct metabolite analysis at the picomole (trillionth) to the attomole(quintillionth) level and is also being used to identify macromolecular targets for drugs and toxic compounds.

The high sensitivity of AMS allows collaborators to address important issues in nutrition, pharmacology and comparative medicine.

For example, it has been possible to trace a physiological dose of beta-carotene in humans for 200 days. In addition, the synergy between pyridostigmine, a nerve agent, and a pyrethrin pesticide has been quantified in rats treated at human equivalent dosages. AMS can also help to establish the human relevance of animal models because the metabolism of xenobiotics can be studied directly in humans.

In fact, initial studies using 14C-labeled agents suggest that activities as low as a few nCi/person can be used to assess metabolism, and activities as low as 100 nCi/person can be used to address macromolecular binding in the study of candidate drugs or toxicants. This level of radioactivity is less than that from a single day's exposure to background ionizing radiation, or a chest X-ray.



Sabrina Fletcher/TID

**On the cover: The illustration shows the tracking of mutagenic nucleotides in cancer cells using radiocarbon tracers.**

SCIENCE NEWS

# Climate models mirror observed ocean temperatures

*By Anne M. Stark*
*Newsline staff writer*

Climate models are reliable tools that help researchers better understand the observed record of ocean warming and variability.

That's the finding of a group of Laboratory scientists, who in collaboration with colleagues at Scripps Institution of Oceanography, had earlier established that climate models can replicate the ocean warming observed during the latter half of the 20th century, and that most of this recent warming is caused by human activities.

The observational record also shows substantial variability in ocean heat content on interannual-to-decadal time scales. The new research by Livermore scientists demonstrates that climate models represent this variability much more realistically than previously believed.

Using 13 numerical climate models, the researchers found that the apparent discrepancies between modeled and observed variability can be explained by accounting for changes in observational coverage and instrumentation and by including the effects of volcanic eruptions.

The research, which appears in the June 26 edition of the journal *Proceedings of the National Academy of Sciences,* casts doubt on recent findings that the top 700 meters of the global ocean cooled markedly from 2003-2005.

"Our analysis shows that the 2003-2005 'cooling' is largely an artifact of a systematic change in the observing system," said Krishna AchutaRao, previously of Livermore's Program for Climate Model Diagnosis and Intercomparison (PCMDI), now at the Indian Institute of Technology Delhi and the lead author of the paper. "The previous research was based on looking at the combined ocean temperature observations from several different instrument types, which collectively appear to have a cooling effect. But if you look at the observational instruments individually, there is no cooling."

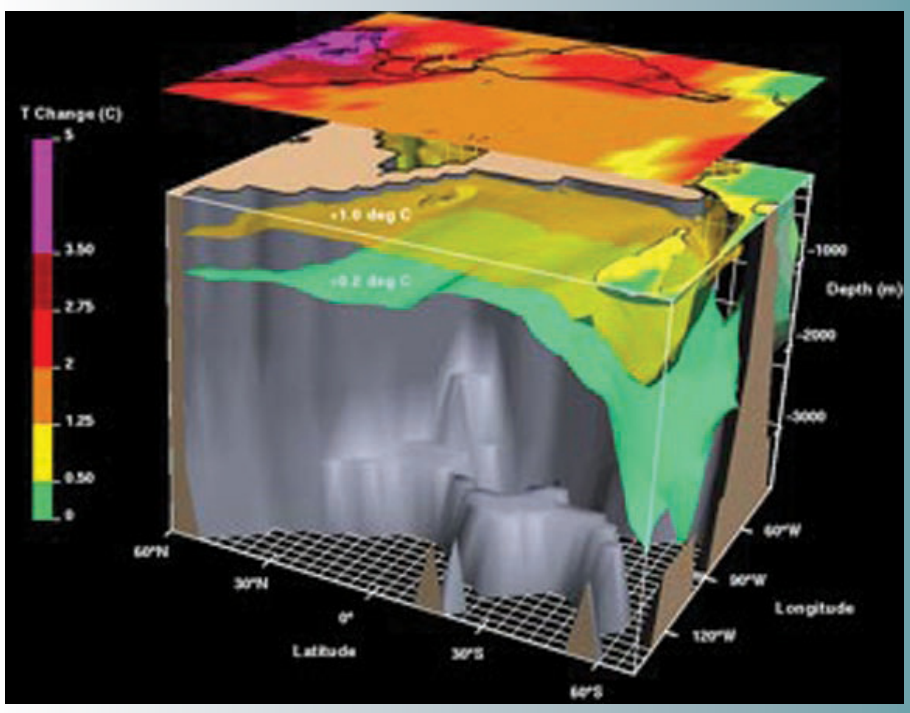
Observational estimates of ocean heat content change in the 2005 World Ocean Atlas are based on millions of individual temperature measurements; however, they are unevenly distributed in space and time. In fact, until recently, many portions of the global ocean were very poorly sampled. To get a complete four-dimensional picture of global ocean temperatures, most researchers use statistical methods to "infill" missing observational data.

Climate models provide spatially complete ocean temperature data, so unlike the incomplete observations, infilling is not required. By sampling the models only where there are observations, the Laboratory team found that infilling had a pronounced effect on observed estimates of ocean variability, and brought model results closer in line with observations. Models agreed even more closely with observations when the cooling effects of intermittent volcanic eruptions were included.

The research team also looked at the impacts of changes in ocean observing systems. A warm bias in the older instruments was recently discovered by researchers in Germany. With the introduction of new instruments called Argo floats, more complete and more reliable ocean temperature measurements have become possible. The first Argo floats were deployed in the Atlantic in 2000 and their network has rapidly ramped up to several thousand floats with near-global coverage of the world's oceans.

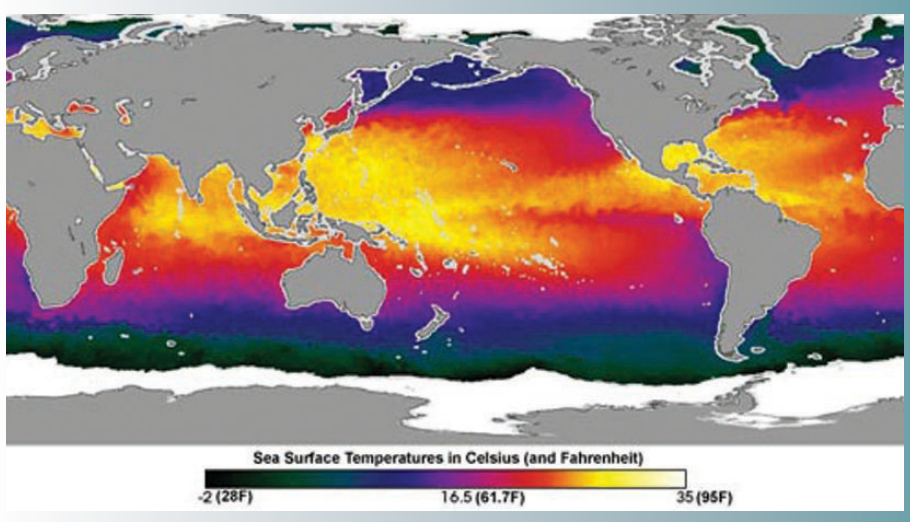
"This transition from a measuring system biased warm to a more realistic one appears as a cooling. Obviously, models can't account for spurious variability caused by instrument changes," AchutaRao said.

Other Laboratory authors include Benjamin Santer, Peter Gleckler and Karl Taylor. The Japan Agency for Marine-Earth Science and Technology, the National Oceanic and Atmospheric Administration and the National Center for Atmospheric Research also contributed to this research.




COURTESY OF NOAA

**This image shows a three-dimensional view of projected surface air temperature and ocean warming due to greenhouse gases as calculated by a low-resolution GFDL coupled ocean-atmosphere climate model.**




COURTESY OF NASDA/NASA

**This is an image of global sea surface temperatures taken from the Japan National Space Development Agency's (NASDA) AMSR-E instrument aboard NASA's Aqua spacecraft on Aug. 27, 2003. The colors in this false-color map represent temperatures of the ocean's surface waters, ranging from a low of -2 C (28 F) in the darkest green areas to a high of 35 C (95 F) in the brightest yellow-white regions. Sea ice is shown as white and land is dark gray.**

# i.want ads

Due to the high quantity of ads and space limitations, these want ads have been abbreviated. For the complete ad listings, refer to the internal Website: http://www-r.llnl.gov/pao/news/ wantads.html or for the latest pdf download and retiree information, see the external Website: http://www.llnl.gov/pao/employee/. Please note that these ads appear on the Web.
**Date of ads: Approx. July 4 to July 11. Ads appear on the Web for seven days.**

## Automobiles

1970 Camaro. $6,000 OBO. 10K miles. Needs some work. 209-892-8105

1981 Honda Accord hatchback. $600 OBO. Fixer-upper. 209-832-4731

1986 Toyota Van. $1,300. 157K miles. 925-516-6885

1987 Chevy S-10 Blazer. $1,500 OBO. 4WD. 60k on crate motor and rebuilt tranny. 209-824-5727

1988 Ford Bronco. $1,500 OBO. V-8 351, 103K miles. 925-447-8913

1992 Chevrolet Lumina Euro $3,000. 120K mi. 209-275-5397

1994 Acura Integra LS. $3,900. 182K miles. 925-216-8503.

1994 Tempo. $1,150 OBO. 105K miles. Call after 6 p.m. 209-982-5168

1996 Subaru Legacy. $2,600. 925-455-9414

1998 Honda Accord LX. 40K miles. $7,300 OBO. 415-710-9545

2000 Buick LeSabre 4dr sedan. $9,000. 209-825-2662

2000 Ford Taurus SEL. $5,765. 925-938-4136

2001 Ford Mustang Bullitt. $12,000. 98K miles. 209-869-1191

2001 Mazda Miata MX-5 LS convertible. $8,950. 97K miles. 925-828-4098

2001 VW New Beetle 1.8 Turbo GLX. $10,950. 51K miles. 925-373-9319

2002 GMC Yukon XL. $15,700 OBO. 95K miles. 925-584-1612

2003 Buick Sedan. $8,500. 36K miles. 925-625-4291

2005 Chevy Pick-up. $23,000 OBO. 40.5k miles. 209-765-6793

2005 Dodge Durango. $16,000. 38K miles. 925-240-9992

2005 Honda Accord LX. $14,500. 60K miles. 925-584-1612

2005 Hyundai Tiburon. $14,500 OBO. 18K miles. 925-443-7425

2005 Mazda 3 hatchback. $16,500. 36.5K miles. 925-234-5843

2006 Ford Mustang GT Coupe. $23,500 OBO. 22.5K miles. 925-200-9204

2006 Subaru Forester X AWD. $19,500. 17.2k miles. 925-989-3010.

## Bicycles

Schwinn men's 27" 10 speed road bike. Make offer. 925-447-0856

Saris locking bike roof rack. $100. 925-600-1817

Trek 2200. 56 cm. Ultegra components, Rolf wheels. $85. 650-892-5025

## Boats

2006 Tige 22V $42,000. 925-516-4973

14' Valco aluminum boat w/15hp evinrude motor and trailer. $1,500 OBO. 209-824-5727

## Electronic Equipment

Apple AirPort base station. $5. 925-454-8827

Sony CDP-CX335 Megastorage 300 CD jukebox. $40. 925-398-0545

Apple wireless keyboard and mouse. Make offer. 925-447-2687

Compaq desktop computer. $25 Needs OS. 925-735- 6002

HP 720i inkjet printer with new cartridges. $40. 925-980-9336

iBook G3 700 MHz, 640MB RAM, $200. 925-454-8827

Nintendo Wii Set - console+Wii Play Game+2 xtra Remotes and 3 xtra nunchuks. $500. 510-825-7786

Connoisseur Stereo Turntable. $30 OBO. 846-8394

## Giveaway

Sony DVP S5600 CD/DVD player. 925-398-0545

DTV satellite receiver. 925-422-581.

Oars and oarlocks for small skiff. 209-403-1854

Quasar 19-inch color TV. 510-638-1836

Canoscan F2710 slide scanner. 925-398-0545

Bushnell Sky Chief II Telescope. 925-855-1314

## Household

Solid wood display/book shelves. $145. 925-640-5469

Sealy Posturpedic "Filmore" CA king mattress set. $500. 209-835-4827

Cherry wood formal dining table w/leaf and 6 chairs. $250. 209-483-6278

Custom cherry stereo cabinet/TV stand. $100 OBO. 925-846-8394

"Fun with Dick and Jane" DVD (Jim Carrey/Tea Leoni) $5. 925-876-5188

Home office furniture. $200 for all or $50/piece. Entertainment center, honey pine finish 72"x58"x17". $100 OBO. 925-447-9565

Kenmore sewing machine in walnut cabinet. $50. 510-537-7222

Sofa bed and love seat. $10. French blue. 925-455-5433

Twin mattress. $75 209-836-1506

70 Nutrisystem meals. $125. 209-835-4827, lv msg.

Pine dining room table w/leaf and 4 chairs. $200. 925-960-1081

ProAirII air compressor. $200. 925-876-5588

Amana side-by-side refrigerator. $75. 925-215-1618

Solid wood oak wall unit. $40 OBO. 72"x 60"x16". One shelf adjustable. 925-443-7333

Whirlpool washer and dryer. $25 each or both for $40. 925-215-1618

## Lost and Found

Reward - missing beige and maroon two tone woman's bike, from Bldg. 132S bike rack. 209-836-5764

## Miscellaneous

Baby activity bouncy seat. $50. 925-447-9353

Combi stroller. $30. 925-373-6833

Portable full-sized play pen. $25. 925-373-6833

Champion generator. $150. 925-363-5364

Craftsman 12-inch commercial radial arm saw. $150 OBO. 925-449-8303

Front entry door, 8' x 3' x 1 5/8". $150. 510-638-1836

Fuel pump-tank unit. $35. 925-735-6002

Glass display cases. $20 each or $60 for all four. 925-606-9575

Hand-Quilter II System. $65. 925-455-0574

JET metal lathe, 12-inch swing. $750. 209-847-1231

Scully Italia woman's leather briefcase. $25 OBO. 925-46-8394

Futaba five-channel transmitter $25. Misc. Futaba receivers $40. Misc. Futaba servos $30. Kraft two-channel transmitter and "brick" receiver and servos $30. Or all, plus chargers and misc. bits, $120. 925-600-1817

Under desk file drawers. $35. 31.5"H x 18.5"W x 9/10" Deep. Cash only. 925-640-5469

Ryobi 31CC 15" gas weed wacker. $45. 925-735-6002

Total Gym XL weight machine. $300. 925 447-3178

## Motorcycles

2000 Harley Davidson Sportster. $5,500. 1.2K miles. 925-487-1371

2002 Custom Chopper. $16,000 OBO. 925-614-5555 Danny.

2003 Polaris Pedator. $320. I am willing to trade. 209-825-6311

Suzuki 305 LTD. $450. 408-263-2846

## Musical Instruments

6-string Epiphone acoustic guitar with soft carrying case, tuner and stand. $100. 925-829-2894

Antique 1903 Chickering piano. $2,500 or best offer. 925-634-9973

Yamaha Electone US-1C Church Organ. $2,000 OBO. 209-832-8360.

## Pets

Free dog supplies. 925-606-9575

Large plastic dog house. $25. 209-951-0115

## Recreation Equipment

Adams insight fairway wood. $150 OBO. 209-815-1210

2 Scoot-N-Go scooters. $90 ea. 925-447-3178

TaylorMade R7 draw driver. $150 OBO. 209-815-1210

Tunturi exercise cycle. $25. 925 735-1841.

Fanatic Bat windsurfer. $500. 925-416-1146

## Ridesharing

Lamorinda carpool- Lab hours 8 a.m.-4:45 p.m. Bruce, 2-9823 or Alek, 2-4213

Modesto vanpool: Four permanent seats available. Darrel, 3-8056.

## Shared Housing

Master bedroom for rent. $750+. 925-525-6276

Furnished room for rent. $650/mo+. 925-525-6276

Room for rent w/private full BA. Livermore. Avail now. $650. F prefered. Deposit $300. 925-784-3184

Room for rent w/private BA. Pleasanton. $775. 925-846-5763(H); 925-209-8778(C)

Furnished Brentwood room to rent. $800+. Adult gated community. Avail. 09/11. 925-447-6515

## Trailers

1995 Big Tex 16' Utility Trailer. $1,600. 925-447-6784

To the person who bought the oak sided jeep trailer in November...please call me. 209-823-5845

## Trucks

1998 Dodge 1500 Quadcab 4X4. $9,800. 925-876-5588

Two 1947 Model B John Deere tractors. $750. Suitable for parts, put both together for one running tractor. 209-847-1231

1949 Farmall Tractor, Model B. $750. Has belly mower. Tractor runs but is in poor condition. 209-847-1231

## Vacation Rentals

Kona Big Island Hawaii vacation home. 3BR/2BA. 415-377-5361

Maui HI. Rental. Sleeps 4. $750/Wk. Avail dates in Aug. and Jan. '08. 925-519-0510.

Maui, HI Kahana Reef oceanfront 1BR/1BA condo. 925-449-0761

Pinecrest cabin. $225/wknd. 3 BR/2BA. 925-449-5513

South Lake Tahoe chalet. 3BR/2BA. 209-599-4644

Tahoe Tahoma. $125/night. 3BR/2BA. 925-813-2597

South Lake Tahoe rental. $650/wk. Sleeps approx. 7. 925-556-9511

Wine country rental. $150/night. Monte Rio. 3BR/1.5BA, sleeps 6 comfortably. 925-513-4767

## Wanted

4 Giants tix (bleachers preferred) for Aug. 9 game. $10 each. 925-373-0751

Light-weight trailer for 12-foot boat. 925-443-5549

Looking for horse panels, Powder Mountain brand. 925-785-3589

Looking for BBQ-size propane bottles, 17-gallon?, 20-gallon? Empty is OK. Nick 925-513-4767

Bike trailer or child's bike seat & single or double jogging stroller. 209-825-4905

# Sen. Nelson stops by Lab


MICHAEL ANTHONY/TID

**From left, Tom D'Agostino, George Miller, Camille Yuan-Soo Hoo, Rep. Ellen Tauscher, Sen. Bill Nelson and LLNL Executive Officer Ron Cochran**

Sen. Bill Nelson of Florida, chair of the strategic forces subcommittee of the Senate's Armed Services Committee, visited the Laboratory last Saturday and listened to briefings and toured various facilities.

Joining Nelson were Tom D'Agostino, deputy administrator for Defense Programs for the National Nuclear Security Administration. In addition, Rep. Ellen Tauscher met up with the group for a working lunch.

Director George Miller and Camille Yuan-Soo Hoo, LLNL site manager for the NNSA, welcomed the visitors.

The group received briefings about the current stockpile and stockpile stewardship, the Reliable Replacement Warhead, the National Ignition Facility and nonproliferation.

In addition, they toured NIF and the Terascale Simulation Facility.

# Defense Science Study visit

BOB HIRSCHFELD/NEWSLINE

**Back row: Andy Mesecar, Paul Cremer, Srini Seshan, Holly Lisanby, John Hogenesch, David Jensen and Tom Killian. Front row: Ron Breaker, Eric Blackman, Eunice Santos, Minami Yoda, Kevin Fall, Melina Hale and Tonya Kuhl**

Members of the Defense Science Study Group visited the Laboratory this week. The group is a Defense Advanced Research Project Agency-sponsored program that the Institute for Defense Analyses has run since 1986. It is a program of education and study for a group of young professors of science and engineering who have achieved national recognition in their fields. One of the objectives is to introduce DSSG members to the operations and capabilities of the national laboratories.

The program seeks to develop strong links between the national security community and young, emerging leaders in the fields of science and technology. The DSSG is in its 20th year and there are more than 130 alumni representing more than 50 universities. Since completing the program, nearly a dozen have served in full-time government positions and more than 70 have participated in Department of Defense advisory boards.

# PEOPLE NEWS

## IN MEMORIAM

### Deana Sue Root

Deana Root, a Lab administrator, died July 4 in Manteca after a long illness. She was 44.

Root was born on April 27, 1963, in Marshalltown, Iowa. She lived in Manteca for 18 years.

Root worked in the Hazards Control Department and later in the Safety and Environmental Protection Directorate.

She enjoyed quilting and spending time with her family and friends. She was active in the Church of Jesus Christ of Latter-day Saints. She served as a volunteer in the community as a scout leader, Sunday school teacher, and most recently as Relief Society president, in the women's auxiliary in her church.

Root received an associate's degree from Las Positas College and a certificate in management from the University of the Pacific.

She is survived by her husband, Daniel Root of Manteca, a Lab employee with ES&H Team 4; son Nicholas Hawn, an airman stationed at Wright-Patterson Air Force Base, and his wife Sally; daughter Erin Root, an incoming freshman at East Union High School; stepson Matthew Root; stepdaughter Kirsten Drew Leighton; granddaughter Renae Leighton; father Blaine Hawn of Lodi; mother Carol Hawn of Corpus Christi, Texas; and brother Danny Hawn of Gilroy, Calif.

Services were held in Manteca.

# UC not included in next phase of NBAF

The Department of Homeland Security on Wednesday announced the selection of the five sites that have advanced to the next phase in the process to select a location for the proposed National Bio and Agro-Defense Facility (NBAF).

UC and its partners, including LLNL, one of the 14 bidders for the facility, were not selected to move to the next phase. NBAF is the proposed National Bio and Agro-Defense Facility that DHS is interested in building to replace the Plum Island Animal Disease Center, an aging facility located just off the coast of New York. UC proposed the site be located at one of three locations at Site 300.

"We want to thank our scientists and other employees for all of their hard work and dedication in preparing our proposal and hosting the site visit for the NBAF," said Bill Colston, leader of the Chemical and Biological Countermeasures Division in the Nonproliferation, Homeland and International Security Directorate. "They did an outstanding job and coordinated well with the broader community of the University of California and state and local agricultural officials.

"Their efforts lay the ground work for the future to establish the capability for California and the western states to respond to agricultural diseases and threats."

UC spokesperson Chris Harrington said UC was disappointed that its proposal was not selected for further review and consideration.

"The UC system is a leader in the field of biotechnology and brings a wealth of knowledge and expertise to the area of biosecurity research. We will continue to apply our premier scientific and technological expertise to the homeland security work of our nation, including in the areas of biology and agriculture."

DHS selected the following sites to advance to the next phase:

- Flora Industrial Park, Madison County, Miss.
- Kansas State University, Manhattan, Kan.
- Texas Research Park, San Antonio, Texas
- Umstead Research Farm, Granville County, N.C.
- University of Georgia/South Milledge Ave., Athens, Ga.

A joint activity with the departments of Agriculture and the Health and Human Services, the NBAF will address biological and agricultural security risks in a state-of-the-art Bio Safety Level 4 (BSL-4) facility. The facility will be equipped with numerous laboratories to conduct research involving diseases that may be transmitted between humans, diseases that may be transmitted from animals to humans, as well as foreign animal diseases. The NBAF mission includes the development of vaccine countermeasures for foreign animal diseases and development of advanced test and evaluation capabilities.

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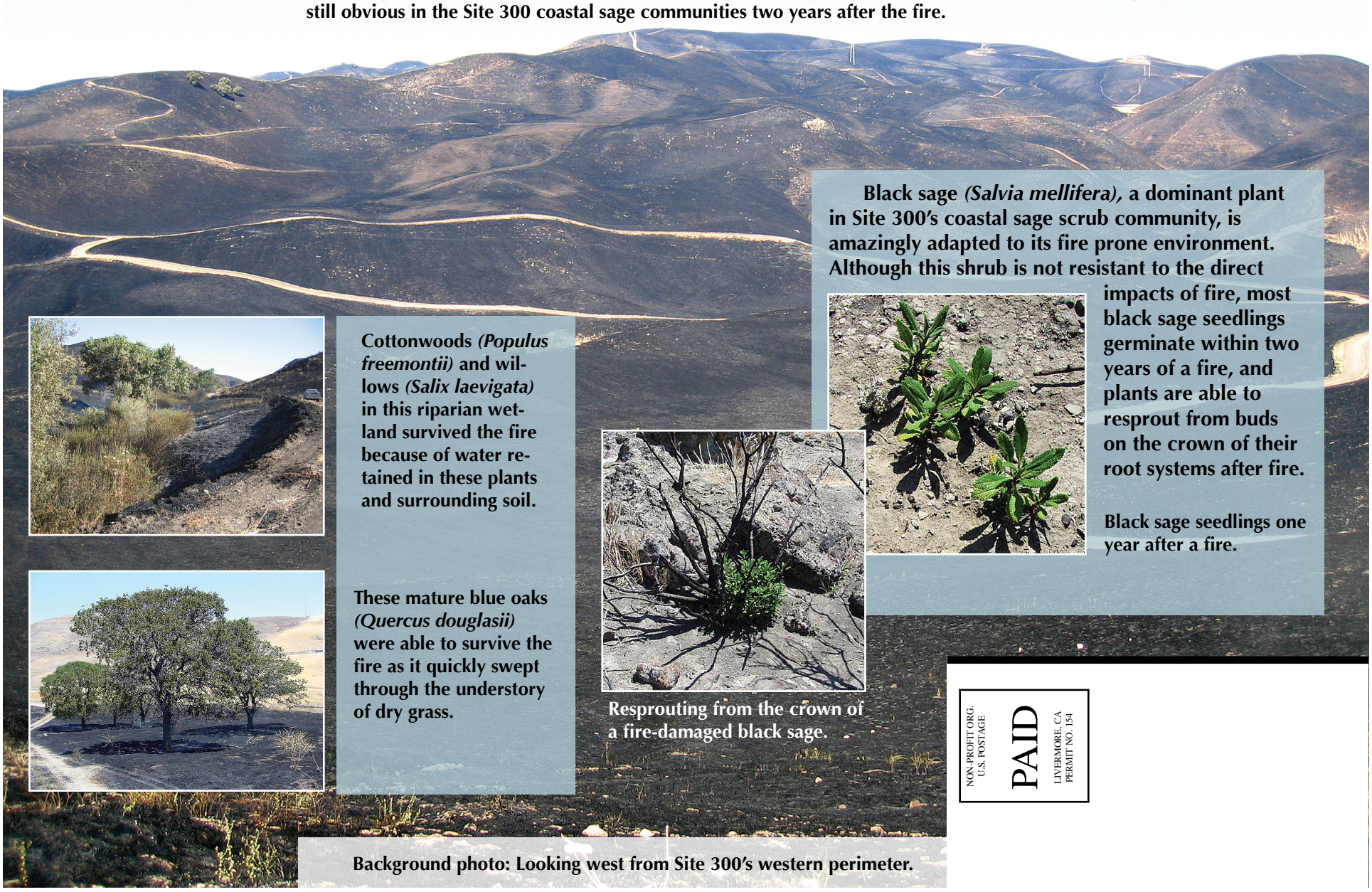
# New life sprouting at Site 300 after the 2005 Tesla fire

LLNL's wild side

*By Lisa Paterson*

**Two years ago on July 19, 2005, a wildfire started in the dry grass at the summit of Corral Hollow Road between Livermore and Tracy. Strong winds caused the fire to spread quickly, and by the time the fire was controlled the following day, 6,387 acres had burned. The fire swept through more than 2,000 acres of undeveloped grasslands, coastal sage scrub and blue oak woodlands at Site 300. Each of these communities has evolved strategies that help them recover following wildfires.**

**Grasslands at Site 300 benefit from periodic fire because fire adds nutrients to the soil and removes old accumulated organic matter that restricts the germination of native seeds. Just one year after the wildfire, Site 300's grasslands had recovered from the effects of the burn. Site 300's coastal sage scrub communities had the largest impact from the 2005 fire. Although shrub species in this community have several adaptations that help them to recolonize burned areas, these species are susceptible to direct impacts from fire. Because the growth of shrubs is very slow in Site 300's arid climate, the impacts of the Tesla fire are still obvious in the Site 300 coastal sage communities two years after the fire.**





Cottonwoods *(Populus freemontii)* and willows *(Salix laevigata)* in this riparian wetland survived the fire because of water retained in these plants and surrounding soil.



These mature blue oaks *(Quercus douglasii)* were able to survive the fire as it quickly swept through the understory of dry grass.



Resprouting from the crown of a fire-damaged black sage.

Black sage *(Salvia mellifera)*, a dominant plant in Site 300's coastal sage scrub community, is amazingly adapted to its fire prone environment. Although this shrub is not resistant to the direct impacts of fire, most black sage seedlings germinate within two years of a fire, and plants are able to resprout from buds on the crown of their root systems after fire.



Black sage seedlings one year after a fire.

Background photo: Looking west from Site 300's western perimeter.

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May 2005: Two months before the Tesla fire, dense coastal sage scrub vegetation covered this hillside at Site 300.

May 2006: Coastal sage scrub species and ancient California junipers lost in the wildfire began to recover.

May 2007: Two years after the fire shrubby vegetation has started to recover.

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